

DAFTAR PUSTAKA

- Adamson, A. W., & Gast, A. P. (1967). *Physical Chemistry of Surfaces*. John Wiley & Sons.
- Aisah, S., Zulfikar, Z., & Sulistiyo, Y. A. (2018). Sintesis Silika Gel Berbasis Fly Ash Batu Bara PLTU Paiton Sebagai Adsorben Zat Warna Rhodamin B. *Berkala Sainstek*, 6(1), 31. <https://doi.org/10.19184/bst.v6i1.7761>
- Amrulloh, H. (2022). Studi Adsorpsi Rhodamin B menggunakan Silika Sekam Padi. *Jurnal Inovasi Pendidikan Dan Sains*, 3(8.5.2017), 2003–2005.
- Bernkop-Schnürch, A., Hornof, M., & Guggi, D. (2004). Thiolated chitosans. *European Journal of Pharmaceutics and Biopharmaceutics*, 57(1), 9–17. [https://doi.org/10.1016/S0939-6411\(03\)00147-4](https://doi.org/10.1016/S0939-6411(03)00147-4)
- Bokov, D., Turki Jalil, A., Chupradit, S., Suksatan, W., Javed Ansari, M., Shewael, I. H., Valiev, G. H., & Kianfar, E. (2021). Nanomaterial by Sol-Gel Method: Synthesis and Application. *Advances in Materials Science and Engineering*, 2021. <https://doi.org/10.1155/2021/5102014>
- Budnyak, T. M., Pylypchuk, I. V., Tertykh, V. A., Yanovska, E. S., & Kolodynska, D. (2015). Synthesis and adsorption properties of chitosan-silica nanocomposite prepared by sol-gel method. *Nanoscale Research Letters*, 10(1), 1–10. <https://doi.org/10.1186/s11671-014-0722-1>
- Chang, S. S., Clair, B., Ruelle, J., Beauchêne, J., Di Renzo, F., Quignard, F., Zhao, G. J., Yamamoto, H., & Gril, J. (2009). Mesoporosity as a new parameter for understanding tension stress generation in trees. *Journal of Experimental Botany*, 60(11), 3023–3030. <https://doi.org/10.1093/jxb/erp133>
- Dhawan, A., Gupta, N., Goyal, R., & Saxena, K. K. (2021). Evaluation of mechanical properties of concrete manufactured with fly ash, bagasse ash and banana fibre. *Materials Today: Proceedings*, 44, 17–22. <https://doi.org/10.1016/j.matpr.2020.06.006>
- Ekadenti, A., Pardoyo, & Sriyanti. (2023). Pengaruh pH Terhadap Sintesis Silika Gel dari Limbah Geotermal dengan Penambahan Cetyltrimethylammonium Bromide (CTAB) untuk Adsorpsi Rhodamine B. *Greensphere: J. Environ. Chem*, 3(1), 20–25.
- Guibal, E. (2005). Heterogeneous catalysis on chitosan-based materials: A review. *Progress in Polymer Science (Oxford)*, 30(1), 71–109. <https://doi.org/10.1016/j.progpolymsci.2004.12.001>
- Handayani, E. (2009). *Sintesa Membran Nanokomposit Berbasis Nanopartikel Biosilika dari Sekam Padi dan Kitosan sebagai Matriks Biopolimer*. Institut Pertanian Bogor.
- Hara. (1986). Utilization of Agrowaste for Building Material. In *Japan*:

International Research and Development Cooperation Division, AIST, MITI.
International Research and Development Cooperation Division, AIST, MITI.

- He, F., Zhao, H., Qu, X., Zhang, C., & Qiu, W. (2009). Modified aging process for silica aerogel. *Journal of Materials Processing Technology*, 209(3), 1621–1626. <https://doi.org/10.1016/j.jmatprotec.2008.04.009>
- Hidayat, R., Yupita, Pangestuti, P. W., Tafdila, N. A., & Fabiani, V. A. (2023). Ekstraksi dan Karakterisasi Silika dari Abu Limbah Ampas Tebu Minuman Sari Tebu di Bangka. *Prosiding Seminar Nasional Sains Dan Terapan*, 1(1), 72–77.
- Janosevic-Lezaic, A., Paunovic, N., & Pejic, N. (2014). Thermodynamics of micellization of hexadecyltrimethylammonium bromide in propylene glycol-water mixture: A conductivity study. *Facta Universitatis - Series: Physics, Chemistry and Technology*, 12(1), 17–26. <https://doi.org/10.2298/FUPCT1401017J>
- Kaban, J. (2009). *Modifikasi Kimia dari Kitosan dan Aplikasi Produk yang Dihasilkan*. Universitas Sumatera Barat.
- Kalpathy, U., Proctor, A., & Shultz, J. (2002). An improved method for production of silica from rice hull ash. *Bioresource Technology*, 85(3), 285–289. [https://doi.org/10.1016/S0960-8524\(02\)00116-5](https://doi.org/10.1016/S0960-8524(02)00116-5)
- Liou, T. H., & Yang, C. C. (2011). Synthesis and surface characteristics of nanosilica produced from alkali-extracted rice husk ash. *Materials Science and Engineering: B*, 176(7), 521–529. <https://doi.org/10.1016/j.mseb.2011.01.007>
- Maulana, R. S. D., Rudiyanasyah, & Wahyuni, N. (2014). Sintesis dan Karakterisasi Silika Gel dari Limbah Kaca Termodifikasi Asam Stearat. *Jkk*, 3(3), 36–42.
- Mohamad, N. F., Abdul Rani, N. H., Onn, M., Sayed Jamaludin, S. I., Ahmad Shafiq, A. S. I., Wan Yeit, W. M. Y., & Zulkifli, N. A. (2019). Synthesis and characterization of amine-impregnated silica gel for potential carbon dioxide (CO₂) absorption. *Journal of Physics: Conference Series*, 1349(1). <https://doi.org/10.1088/1742-6596/1349/1/012100>
- Mohammed, M. I., Ismael, M. K., & Gönen, M. (2020). Synthesis of Chitosan-Silica Nanocomposite for Removal of Methyl Orange from Water: Composite Characterization and Adsorption Performance. *IOP Conference Series: Materials Science and Engineering*, 745(1). <https://doi.org/10.1088/1757-899X/745/1/012084>
- Nisa, M. K., Sari, I. Y. L., & Koesnarpasrdi, S. (2022). *Pembuatan dan Karakterisasi Adsorben Kitosan-Silika dan Pengaplikasian terhadap Adsorpsi Ion Cd²⁺*. 30–34.
- Oscik, J. (1982). *Adsorption*. John Willey & Sons, Inc. .
- Paramitha, T., Saputra, T. R., Aliah, A. N., Tarigan, A. V., & Ghozali, M. (2019).

- Karakterisasi Silika Dari Abu Ampas Tebu. *KOVALEN: Jurnal Riset Kimia*, 5(3), 290–298. <https://doi.org/10.22487/kovalen.2019.v5.i3.14309>
- Putra, R., Elvia, R., & Amir, H. (2022). *Sintesis silika-kitosan untuk menurunkan kadar ion besi dalam air permukaan*. 6(1), 1–9.
- Salama, A., & Abou-Zeid, R. E. (2021). Ionic chitosan/silica nanocomposite as efficient adsorbent for organic dyes. *International Journal of Biological Macromolecules*, 188(April), 404–410. <https://doi.org/10.1016/j.ijbiomac.2021.08.021>
- Saman, N., Othman, N. S., Chew, L. Y., Mohd Setapar, S. H., & Mat, H. (2020). Cetyltrimethylammonium bromide functionalized silica nanoparticles (MSN) synthesis using a combined sol-gel and adsorption steps with enhanced adsorption performance of oxytetracycline in aqueous solution. *Journal of the Taiwan Institute of Chemical Engineers*, 112, 67–77. <https://doi.org/10.1016/j.jtice.2020.07.008>
- Schmidt, H. (1988). Chemistry of material preparation by the sol-gel process. *Journal of Non-Crystalline Solids*, 100(1–3), 51–64. [https://doi.org/10.1016/0022-3093\(88\)90006-3](https://doi.org/10.1016/0022-3093(88)90006-3)
- Setiyanto, Riwayanti, I., & Kurniasari, L. (2015). Adsorpsi Pewarna Tekstil Rodhamin B Menggunakan Senyawa Xanthat Pulpa Kopi. *Momentum*, 11, 24–28. <https://doi.org/https://doi.org/10.1155/2021/5102014>
- Sholeh, M., Rochmadi, R., Sulisty, H., & Budhijanto, B. (2020). Synthesis of precipitated silica from bagasse ash as reinforcing filler in rubber. *IOP Conference Series: Materials Science and Engineering*, 778(1). <https://doi.org/10.1088/1757-899X/778/1/012012>
- Sikanna, R., Rajmah, D. N. A., Ramadani, K., Musafira, M., Nur, A., & Febryanti, A. (2021). Synthesis and Characterization of Bagasse (Saccharumofficinarum L.) Silica Gel Modified Diphenylcarbazon. *Elkawanie*, 7(1), 146. <https://doi.org/10.22373/ekw.v7i1.9239>
- Soleimani Dorcheh, A., & Abbasi, M. H. (2008). Silica aerogel; synthesis, properties and characterization. *Journal of Materials Processing Technology*, 199(1), 10–26. <https://doi.org/10.1016/j.jmatprotec.2007.10.060>
- Sotomayor, F. J., Cychosz, K. A., & Thommes, M. (2018). Characterization of Micro/Mesoporous Materials by Physisorption: Concepts and Case Studies. *Acc. Mater. Surf. Res*, 3(2), 34–50.
- Sriyanti, Taslimah dan Narsito, N. (2005). Sintesis Bahan Hibrida Amino-Silika dari Abu Sekam Padi Melalui Proses Sol-Gel Sintesis Bahan Hibrida Amino-Silika Dari Abu Sekam Padi Melalui Proses Sol-Gel Synthesis of Amino-Silica Hhybrid From Rice Hull Ash by Sol-Gel Methode. *Sains & Apl*, VIII(1), 1–8.
- Sunardi, S., & Silviana, S. (2022). Transformasi Abu Vulkanik dan Limbah Seng

- menjadi Nanokomposit ZnO-SiO₂ dan Aplikasinya untuk Degradasi. *Jurnal Ilmu Lingkungan*, 20(4), 856–871.
- Usgodaarachchi, L., Thambiliyagodage, C., Wijesekera, R., & Bakker, M. G. (2021). Synthesis of mesoporous silica nanoparticles derived from rice husk and surface-controlled amine functionalization for efficient adsorption of methylene blue from aqueous solution. *Current Research in Green and Sustainable Chemistry*, 4(March), 100116. <https://doi.org/10.1016/j.crgsc.2021.100116>
- Utami, R. P., Hastuti, R., & Khabibi, K. (2015). Pengaruh H₂SO₄ pada PVA dalam Modifikasi Tongkol Jagung-Bulu Ayam sebagai Adsorben Campuran Logam Pb(II) dan Cd(II). *Jurnal Kimia Sains Dan Aplikasi*, 18(2), 44–49. <https://doi.org/10.14710/jksa.18.2.44-49>
- Vlachos, N., Skopetilis, Y., M, P., V, K., A, C., & Tegou E. (2006). Applications of Fourier Transform infrared Spectroscopy to Edible Oils. *Analytica Chimica Acta*, 573, 459–465.
- Wijayanti, I. E., & Kurniawati, E. A. (2019). Studi Kinetika Adsorpsi Isoterm Persamaan Langmuir dan Freundlich pada Abu Gosok sebagai Adsorben. *EduChemia (Jurnal Kimia Dan Pendidikan)*, 4(2), 175. <https://doi.org/10.30870/educhemia.v4i2.6119>
- Xu, C., Nasrollahzadeh, M., Selva, M., Issaabadi, Z., & Luque, R. (2019). Waste-to-wealth: Biowaste valorization into valuable bio(nano)materials. *Chemical Society Reviews*, 48(18), 4791–4822. <https://doi.org/10.1039/c8cs00543e>